

# THE HIPPIATRICA AND BYZANTINE VETERINARY MEDICINE

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The history of veterinary medicine has not received the attention it deserves, although there is no lack of veterinary texts. I shall focus my discussion here on one branch of veterinary medicine, hippiatrics or horse medicine, which was particularly well developed as far back as in antiquity. With regard to Latin sources there are a number of important works: chapters 27–38 of Book VI of Columella's treatise *De re rustica*;<sup>1</sup> a large part of Pelagonius' treatise (recently re-edited by K. D. Fischer);<sup>2</sup> the *Mulomedicina Chironis*,<sup>3</sup> three of the four books of Vegetius;<sup>4</sup> paragraphs 22–28 of Book XIV of *De veterinaria medicina* of Palladius' agricultural treatise.<sup>5</sup> With regard to Greek sources we are less fortunate: the original writings of the Greek hippiatric authors, whose activity extended approximately from the third to the fifth century A.D.,<sup>6</sup> are not extant in their original form; there remains only a collection of excerpts.<sup>7</sup> The questions

[The reader is referred to the list of abbreviations at the end of the volume.]

<sup>1</sup>Columella, *On Agriculture*, edited and translated by E. S. Forster and E. H. Heffner, II, Loeb Classical Library (London, 1954), 188–227.

<sup>2</sup>Fischer, ed., *Pelagonius*.

<sup>3</sup>Oder, ed., *Mulomedicina Chironis*.

<sup>4</sup>Lommatzsch, ed., *Vegetius*, 1–277. Book IV, taken straight from Columella, also survives, but deals with farm animals.

<sup>5</sup>Rodgers, ed., *Palladius*, 265, 6–272, 11. See also 135, 23–139, 18 (IV, 13–15); 283, 11–291, 10 (XIV, 39–65) *passim*.

<sup>6</sup>On the earlier works dealing with horses in Greek literature—Simon of Athen's treatise, Xenophon's *De re equestris*, Aristotle's *Historia animalium* (esp. V, 14; VI, 18 and 22–24; VIII, 8 and 24–25)—see K. D. Fischer, “Pelagonius on Horse Medicine,” *Papers of the Liverpool Latin Seminar*, 3 (1981), 287.

<sup>7</sup>E. Oder and K. Hoppe, eds., *Corpus Hippiatricorum Graecorum*, I. *Hippiatrica Berolinensis* (Leipzig, 1924), II. *Hippiatrica Parisina Cantabrigiensia Londinensis Lugdunensis—Appendix* (Leipzig, 1927) (repr. Stuttgart, 1971); henceforth abbreviated as *CHG*. Book XVI of the *Geponica* must be added to it (Beckh, ed., *Geponica*, 451–68). The passages which are not contained in the *Collection* are published in the Appendix of Oder and Hoppe's edition (*CHG*, II, 325, 17–330, 15).

raised by the chronology, the structure, and the manuscript tradition of this compilation of texts are difficult and complex; the study of the individual texts requires considerable preliminary philological and editorial work. I propose now to provide a general survey of these Greek hippiatric texts<sup>8</sup> and to conclude with a few comments on the utilization of their contents and on their purpose.

## THE SOURCES OF THE ORIGINAL COLLECTION AND THEIR CHRONOLOGY

In the original *Collection* of Greek hippiatric texts, seven authors were drawn on: Apsyrtos, Anatolios, Eumelos, Theomnestos, Hippocrates, Hierocles and Pelagonius. For every subject, the writer took the excerpts which he had found in his sources and arranged them in the alphabetical order of the names of the authors.<sup>9</sup> These sources were obviously not selected according to originality, and hippiatric authors repeat one another in many places in the *Collection*. They sometimes quote their predecessors, and this information is of great importance for the often difficult task of determining their chronology, which unfortunately has been, and still remains, uncertain.

Chronology hinges on the date of Apsyrtos. His work is cast in the form of letters. He writes at the

<sup>8</sup>I have already dealt with numerous problems raised by Greek hippiatric texts in an article entitled “Les textes d'hippiatrie grecque. Bilan et perspectives,” *AntCl*, 50 (1981), 258–73. My present contribution complements this discussion and clears up some points. It also outlines the findings of my research, carried on during the last two years, which forms the subject matter of my Ph.D. thesis (“Un manuel grec de médecine vétérinaire. Histoire du texte, édition critique traduite et commentée. Contribution à l'étude du *Corpus Hippiatricorum Graecorum*,” 5 vols. [in typescript, Louvain-La-Neuve, 1983]).

<sup>9</sup>The alphabetical order followed, of course, the Greek alphabet and took only the first letter of the word into account. This explains why, for instance, Anatolios follows Apsyrtos.

beginning of his letter on fever that he took part in a military campaign on the banks of the Danube (*CHG*, I, 1). This information recurs in the *Suda* (A 4739, s.v. "Αψυρτος"), which introduces Apsyrtos as a soldier and adds that the campaign took place in Scythia in the reign of the emperor Constantine:<sup>10</sup>

"Αψυρτος, Προυσαεύς, Νικομηδεύς,<sup>11</sup> στρατιώτης, στρατευσάμενος ἐπί Κωνσταντίνου τοῦ βασιλέως ἐν Σκυθίᾳ παρὰ τὸν Ἰότερον. Ἐπιπατρικὸν βιβλίον οὗτος ἔγραψεν καὶ φυσικὸν περὶ τῶν αὐτῶν ἀλόγων καὶ ἔτερα. . ."<sup>12</sup>

This information has been interpreted variously.

K. Sprengel first assigned Apsyrtos to the seventh century A.D., under the reign of Constantine IV Pogonates (668–685), who tried in vain to stop the Bulgarian expansion; he then dated Vegetius,<sup>13</sup> who quotes Apsyrtos, in the twelfth or thirteenth century A.D.<sup>14</sup> Later he admitted that he had

made a mistake, and assigned Apsyrtos to the fourth century A.D.<sup>15</sup> This dating was for a long time accepted, and it was generally agreed that the emperor in question was Constantine I (306–337), although opinions still diverged as to which campaigns were involved: some scholars believed that Apsyrtos took part in Constantine's campaign against the Sarmatians, from 320 to 323 A.D.,<sup>16</sup> others preferred the battles which Constantine fought successfully from 332 to 334 A.D. against the Goths, who were attacking the Sarmatians from Banat.<sup>17</sup>

G. Björck first took into account the difficulties arising from the date of Theomnestos.<sup>18</sup> Ch. Heusinger, who had only S. Grynaeus' edition<sup>19</sup> at his disposal, believed that Theomnestos was Theodoric the Great's (493–526) personal veterinary surgeon, and that he had been with him during his campaigns in Pannonia and Italy in 489 A.D.<sup>20</sup> Heusinger based his argument on information provided by Theomnestos at the beginning of his article on tetanus, where he states that he accompanied the emperor as a friend on his departure from Pannonia for Italy across the Alps (*CHG*, I, 183, 21–184, 6). The Parisinus Graecus 2322, however, has preserved a better text of this episode, which makes Heusinger's hypothesis hardly plausible. The additions of the Parisinus Graecus 2322 are shown between oblique brackets in the edition of E. Oder and K. Hoppe, whose text is reproduced here:

<sup>10</sup> Adler, ed., *Suda*, I, 444. According to the editor, this article is inspired by the 'Ονοματόλογος by Hesychius of Miletus.

<sup>11</sup> Apsyrtos' only homeland mentioned in the *Collection* is Clazomenae (Bithynia) (*CHG*, II, 96, 23). Probably he practised mainly in Prusa and Nicomedia, which would explain why these two cities were associated with his name.

<sup>12</sup> "Apsyrtos from Prusa, Nicomedia, a soldier, took part in a military campaign under the reign of Emperor Constantine in Scythia along the Danube. He wrote a book about hippiatrics, a book of magical nature about the same animals, and on other subjects. . ." (The punctuation [-] placed in this edition between ἀλόγων and καὶ ἔτερα should, in my view, be omitted). φυσικὸν may be interpreted in two ways: either it is an adjective and refers to βιβλίον, in which case Apsyrtos' hippiatric treatise would also bear a "magical" aspect, or it is a neuter noun and Apsyrtos wrote, besides his treatise on hippiatrics, also a treatise of magical nature dealing with horses as well. The presence of αὐτῶν makes us prefer the second solution.

<sup>13</sup> It is generally agreed that the author of the *Mulomedicina* (Publius Vegetius Renatus) and the author of the *Epitome rei militaris* (Flavius Vegetius Renatus) are one and the same person. The dating for the writing of this second book has been discussed; it must have been written under one of Gratian's successors since he was given the epithet "divus" (*Epit. rei milit. I, 20*). A. R. Neumann, s.v. Publius (Flavius) Vegetius Renatus, *R-E*, suppl. X (Stuttgart, 1965), coll. 992–93, summarizes the various opinions and decides upon Theodosius I (A.D. 379–395). More recently W. Goffart, "The Date and Purpose of Vegetius' *De re militari*," *Traditio*, 33 (1977), 65–100, decided upon Valentinian III (A.D. 425–455). He was criticized by T. D. Barnes, "The Date of Vegetius," *Phoenix*, 33 (1979), 254–57, who believes this emperor is Theodosius I; G. Sabbah, "Pour la datation théodosienne du *De re militari de Végèce*," *Centre J. Palerne, Mémoires*, II (Saint-Etienne, 1980), 131–55, concurs. The *Mulomedicina*, in which Apsyrtos is mentioned in the preface and in other passages (see ed. Lommatsch, XXVIII and XXXVI–XLII), does not contain any information that might enable us to date it with any precision.

<sup>14</sup> K. Sprengel, *Versuch einer pragmatischen Geschichte der Arzneykunde*, II (Halle, 1823<sup>3</sup>), 318 and 322.

<sup>15</sup> K. Sprengel, *Geschichte der Botanik*, I (Leipzig and Altenburg, 1917), 191, and "De Apsyro Bithynio, hippiatro," *Opuscula Academica*, ed. J. Rosenbaum (Leipzig, 1844), 110–16.

<sup>16</sup> J. F. K. Hecker, *Geschichte der Heilkunde. Nach den Quellen bearbeitet*, II (Berlin, 1829), 245–46; Ch. Heusinger, *Recherches de pathologie comparée*, I (Cassel, 1847), 17–18; A. Postolka, *Geschichte der Periode der empirischen Tierheilkunde* (Vienna, 1885), 91–92; A. Baranski, *Geschichte der Thierzucht und Thiermedicin im Alterthum* (Vienna, 1886; reprint Hildesheim, 1971), 82; L. Moulé, "Histoire de la médecine vétérinaire dans l'Antiquité," *Bulletin de la Société Centrale de Médecine Vétérinaire*, 44 (1890), 580.

<sup>17</sup> E. Oder, "Apsyrtus. Lebensbild des bedeutendsten altgriechischen Veterinärs," *Veterinärhistorisches Jahrbuch*, 2 (1926), 121; E. Leclainche, *Histoire illustrée de la médecine vétérinaire*, I (Paris, 1955), 96.

<sup>18</sup> G. Björck, *Apsyrtus, Julius Africanus et l'hippiatrique grecque* (Uppsala, 1944) (Uppsala Universitets Årsskrift, 1944,4), 7–12.

<sup>19</sup> The *editio princeps* of the theologian and humanist Simon Grynaeus, Τῶν Ἐπιπατρικῶν βιβλία δύο. *Veterinariae medicinae libri duo a Joanne Ruellio olim quidem latinitate donati, nunc vero iidem sua, hoc est Graeca lingua, primum in lucem editi* (Basle, 1537), contains only the B recension. It has not been determined yet whether the manuscript(s) on which it is based is (are) among the known manuscripts of the B recension or not.

<sup>20</sup> Ch. Heusinger, *Theomnestus, Leibthierarzt Theodorichs des Grossen, Königs der Ostgotthen* (Giessen, 1843), and *Recherches*, I (n. 16 above), 21–24.

Τούτο δὲ ἔγνων ἐγώ γενόμενος ἐπὶ ( . . . ἡμέρας κατὰ Κάρονον τῆς) Παννονίας, βασιλεῖ παρεπόμενος καὶ ὃς φίλος σὺν αὐτῷ διάγων.<sup>21</sup> (Ἀθρόως οὖν ἡπείχθη διὰ γάμου, καὶ ἀπὸ τῆς Κάρονος κατ’ ἀρχὰς τοῦ φεβρουαρίου μηνὸς ὕδευσε τεταμένως εἰς τὴν Ἰταλίαν, ὃς δύο καὶ τρεῖς μονάς μίσιν ποιήσαι. Διελθόντων δὲ ἡμῶν πᾶσαν τὴν Νιωρικὸν καὶ λοιπὸν ἐπὶ τὰς Ἀλπεις ἐπιβάντων τὰς Ἰουλίας καλουμένας,) χιῶν ἐξοίφνης κατερράγη πολλὴ περὶ πρώτην ὡραν, (ἀναβαίνοντων τὰς Ἀλπεις. Τότε) καὶ οἱ στρατιῶται ἐπὶ τοῖς ἵπποις παγέντες ἀπώλλυντο, καὶ ἔμενον ἐπὶ τῶν ἵππων συντεταμένοι.

According to this passage, the emperor's trip took place in early February and hurriedly because of a wedding. As M. Haupt has shown,<sup>22</sup> the passage appears to refer to the emperor Licinius, who left Carinthia in the late winter of 313 A.D. for Milan to marry Constantine's sister.<sup>23</sup> This consequently makes Theomnestos much younger, since he quotes Apsyrtos.<sup>24</sup>

Now, if we stick to the facts found in the texts of Apsyrtos and in the *Suda*, it would seem likely that Apsyrtos would have written his work only after the military campaign, which would have enabled him to perfect his art through his contact with the Sarmatians. Oder and Hoppe assumed that Theomnestos then wrote at an advanced age what he had seen as a young man.<sup>25</sup> Björck considered this explanation not acceptable, for the following reason: the manner in which Theomnestos describes his relationship to the emperor implies that they were close in age, "and Licinius got married, it seems, when he was well over sixty."<sup>26</sup> This statement of Björck, however, contradicts the testimony of Aurelius Victor, according to whom Licinius was near sixty when he died in 325 A.D.<sup>27</sup> Björck further argues that Theomnestos prides himself on Licinius' friendship in his book, and that therefore the book can not have been published after the year

<sup>21</sup> After διάγων B has καὶ δήποτε ἐπὶ Ἰταλίαν διαβαινόντων ἡμῶν καὶ τὰς καλουμένας Ἀλπεις. . .

<sup>22</sup> M. Haupt, "Varia, LIV," *Hermes*, 5 (1871), 23–25.

<sup>23</sup> This marriage is discussed by several authors: Lactantius, *De morte persecutorum* 43, 2 and 45, 1; Aurelius Victor, *De Caesaribus* 41, 2 and *Epitome* 41, 4; Eutropius, *Breviarium X*, 5; Orosius, *Hist. adversum paganos* VII, 28, 19; Zosimus, *Hist.* II, 17, 2; Socrates, *Hist. eccl.* I, 2, 10; *Anonymous Valesii* 5, 13.

<sup>24</sup> CHG, I, 273, 15.

<sup>25</sup> CHG, II, IX.

<sup>26</sup> Björck, "Apsyrtus" (n. 18 above), 8.

<sup>27</sup> Aurelius Victor, *Epitome* 41, 8. One should probably not take the term ἐσχατογήως literally. Eusebius of Caesarea (*Hist. eccl.* X, 8, 13) applies it to Licinius in a passage in which he is indignant at the emperor's lack of respect and reserve towards married women and young girls.

324 A.D., which marked Licinius' fall and condemnation. Björck concludes that Theomnestos published his work between 313 and 324 A.D., and that Apsyrtos should be placed before this period. He thinks that the note in the *Suda* comes straight from Apsyrtos' text; "consequently its dating is a conjecture without any historical value."<sup>28</sup> But it is not easy to define Apsyrtos' time. Björck notes that the city of Constantinople is not mentioned by the veterinary surgeon and that the names of his addressees are with one exception<sup>29</sup> classical, both of which led him to date Apsyrtos before 313 A.D. On the other hand, he thinks he has found in Apsyrtos' writings a quotation from Xenocrates of Aphrodisias (second half of the first century A.D.), which provides a *terminus post quem*;<sup>30</sup> this is confirmed by prosopography (some names seem to imply the series of emperors up to Nerva) and onomastics (the surname Fronto, found, among other places, in the Danubian provinces in the second century A.D. and in the early third century A.D., appears four times).<sup>31</sup> Thus, Björck proposes to assign Apsyrtos' activity between the years 150 and 250 A.D., although he cannot substantiate this hypothesis with any certainty.

In passing, it should be noted that Apsyrtos gives the names of the addressees in his letters;<sup>32</sup> he also mentions authors, peoples, cities and countries;<sup>33</sup> finally he himself is quoted by some of his col-

<sup>28</sup> Björck, "Apsyrtus" (n. 18 above), 9.

<sup>29</sup> Perhaps only the name Ἐπιφάνιος (CHG, I, 131, 2) is Christian.

<sup>30</sup> Björck, "Apsyrtus" (n. 18 above), 11. He compares this article (CHG, II, 49, 1–3) with a similar passage in Galen (ed. Kühn, XIII 846, 18–847, 1), where the name of Xenocrates also appears; he refers to M. Wellmann, "Xenocrates aus Aphrodisias," *Hermes*, 42 (1907), 614–29, especially, 620; some of his statements have been slightly altered by F. Kudlien, *s.v.* Xenocrates aus Aphrodisias, R-E, II, IX, 2 (Stuttgart, 1967), coll. 1529–31.

<sup>31</sup> Björck, "Apsyrtus" (n. 18 above), 12. He refers to L. R. Dean's thesis, *A Study of the Cognomina of Soldiers in the Roman Legions* (Princeton, 1916), 30, which I have not been able to consult, and goes so far as to identify one of Apsyrtos' addressees (CHG, I, 263, 48) with a certain Valerius Fronto, known in 155 (see CIL III, suppl. I, 7449).

<sup>32</sup> For an almost complete list of these, see CHG, I, pp. 451–52. There should be added: Γέλων ἱπποτάρχος (Parisinus Graecus 2244, fol. 170v); Κιόστινος Μοοχίων, "Apsyrtos' doctor" (τῷ ἑαυτῷ τατῷ) (CHG, II, 96, 23–24); Οὐδοσος στρατηλάτης (CHG, II, 216, 16–17); Παπίας Ἰούστος (Parisinus Graecus 2244, fol. 172r); Πούπλιος Ἰούλιος Σπανός (Parisinus Graecus 2244, foll. 107<sup>r</sup> and 171<sup>v</sup>; Ρώμωλος ἑκατόνταρχος (CHG, II, 180, 22–23).

<sup>33</sup> Apsyrtos quotes Eumelos (CHG, I, 17, 10; 56, 17–18; 57, 23) and Mago (I, 168, 18–19 and II, 90, 20). Apart from the Danube, he mentions the Parthians (I, 77, 17 and 21), the Alexandrines (I, 96, 8), the Sarmatians (I, 97, 21; 102, 15; II, 70, 1) and their country (I, 102, 27–28) the Cappadocians (I, 425, 21) and the Syrians (I, 426, 2). As to the foreign names of the

leagues.<sup>34</sup> The study of this data, however, does not enable us to draw any literary or epigraphic parallel that would corroborate the hypothesis of Björck. Up to now, the traditionally accepted dating (first half of the fourth century A.D.) has been used as a *terminus post quem* for the *Mulomedicina Chironis*,<sup>35</sup> and it is in relation to Apsyrtos that other veterinary surgeons have been dated.

Eumelos from Thebes comes after Columella, whose sixth book he made much use of,<sup>36</sup> and before Apsyrtos, who quotes him;<sup>37</sup> he would come nearer to the latter. Traditional dating, which assigns him around 300 A.D. is challenged, of course, by Björck's hypothesis.

Rendering in more elegant Greek many articles of Apsyrtos, Hierocles literally pirated his predecessor's work.<sup>38</sup> There is no evidence which allows us to date with any precision this author, who appears to have been a learned lawyer.<sup>39</sup>

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marshmallow (ἀλθαία) he quotes the Romans, the Sarmatians, the Getae and the Thracians. He also mentions the areas where this plant grows: Asia (in particular, Smyrna, on the river Μέλης) and Sicilia (II, 45, 1–17). He says that he himself comes from Clazomenae (II, 96, 23). His addressees come from Alexandria (Alexandria Troas?), from Antioch (in Syria in Pisidia, or in Cappadocia?), from Callipolis (in Chersonese?), from Chalcedon (Bithynia), from Clazomenae (Bithynia), from Corinth, Ephesus, Laodicea (in Phrygia, in Lycia, or else in Syria?), from Nicaea (Bithynia?), from Nicomedia (Bithynia), from Tomi (Moesia) and from Spain. Most of these names were used for various cities, and it is difficult to locate those mentioned by Apsyrtos with any certainty.

<sup>34</sup>In the Greek *Collection*, Apsyrtos is quoted by Theomnestos (*CHG*, I, 273, 15) and by Hierocles (*CHG*, I, 55, 24; 58, 22; 59, 2; 63, 4; 98, 19; 121, 23, 128, 4–5; 129, 7; 171, 27, 181, 28; 182, 21; 205, 5; 207, 8; 221, 15 and 20; 224, 4; 231, 15; 232, 4; 241, 15; 264, 18; 300, 18; 302, 10; 314, 23; 342, 12; 348, 22; and II, 196, 22). On the Latin side, he is quoted by Pelagonius (ed. Fischer, 153), in the *Mulomedicina Chironis* (ed. Oder, 298), and by Vegetius (ed. Lommatzsch, 311).

<sup>35</sup>The *Mulomedicina Chironis* is a text contained in Monacensis Latinus 243, fifteenth century; which was discovered by W. Meyer in 1885 and edited by E. Oder in 1901; it is a compilation that includes texts by Apsyrtos among others; the *terminus ante quem* is Vegetius (ed. Lommatzsch, XXVIII and XXXVI–XLII).

<sup>36</sup>M. Ihm, ed., *Pelagonii artis veterinariae quae extant* (Leipzig, Teubner, 1892), 7–9.

<sup>37</sup>See n. 33 above.

<sup>38</sup>Possibly it was his correctness of speech that was responsible for the inclusion of his work in the *Collection* and for its translation into Latin and Sicilian in the Middle Ages (see Doyen, "Les textes" [n. 8 above], 267 and n. 51). E. Oder, "Beiträge zur Geschichte der Landwirtschaft bei den Griechen," *RhM*, 48 (1893), 34–35, suggests that Hierocles should not be placed after 500, because he avoids hiatus in his prologues, thus sticking to the rule applied by the sophists of the fourth and fifth centuries A.D. For want of something better, this weak argument was again used in the preface to the edition of the *Corpus* (*CHG*, II, XII).

<sup>39</sup>See the prologue to the first book, *CHG*, I, 3, 18–6, 21. He mentions in it Euripides, Pindar, Simon, Xenophon, the precis of *History of Animals* by Aristophanes from Byzantium, the brothers Quintilii and Tarentinus. In the prologue to the sec-

Anatolios is known from other sources: he is the author of a compilation on agriculture in twelve books, which Oder dates to the fourth or fifth century A.D.; and his work served as a basis, together with Didymus', for Cassianus Bassus' composition of the *Geponica* in the sixth century A.D.<sup>40</sup>

As to Pelagonius, who also draws on Apsyrtos, it has for long been believed that his Latin text was but a translation of a Greek treatise, excerpts from which can be found in the *Collection*. However, the comparison of the two versions reveals the opposite, without it being possible to determine the date of the Greek translations.<sup>41</sup> As to the dating of Pelagonius' work,<sup>42</sup> written in the form of letters like those of Apsyrtos, the identification of two of his addressees with known people from the second half of the fourth century A.D. is not beyond doubt;<sup>43</sup> it seems also hard to draw any argument from the first words of the treatise, in which the circus and the sacred games are mentioned, and which were borrowed from Columella, another source of Pelagonius.<sup>44</sup> Nevertheless, Oder and Hoppe have deduced from them that the sacred games were not yet prohibited at the time when the treatise was written and that the writing had occurred therefore before 393 A.D.<sup>45</sup> Since the *terminus post quem* constituted by Apsyrtos has been challenged by Björck's hypothesis, the most reliable landmark now

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ond book (*CHG*, I, 248, 13–250, 8), he mentions Hesiod and Aristotle.

<sup>40</sup>On the *Geponica*, see E. Oder, "Beiträge zur Geschichte der Landwirtschaft bei den Griechen," *RhM*, 45 (1890), 58–98 and 212–22 and 48 (1893), 1–40, and more recently R. H. Rodgers, "Varro and Virgil in the *Geponica*," *GRBS*, 19 (1978), 277–85 and M. Ullman, *Die Natur- und Geheimwissenschaften im Islam* (Leiden and Cologne, 1972) (Handbuch der Orientalistik, I, Ergb. VI, 2), 431 f.

<sup>41</sup>On the possible use of various versions of Pelagonius in the *Collection*, see K. D. Fischer, "Two notes on the *Hippiatrica*," *GRBS*, 20 (1979), 373–75.

<sup>42</sup>See Fischer, "Pelagonius" (n. 6 above), 286–88.

<sup>43</sup>*Ibid.*, 288–89. They are Arzygius, the dedicatee of the treatise, to whom letters III, VI, and XXIV are also addressed (ed. Fischer, 10, 6; 16, 24; 58, 9), and Astyrius, the addressee of letter IX (*ibid.*, 28, 7). The former could be Betitius Perpetuus Arzygius, consular to Etruria and Umbria after 366, in whose honor a statue was erected. The latter could be L. Turcius Apronianus Asterius, prefect of the city in 363, unless they are but relatives of these people (see *PLRE*, I, 88–89 and 688–89).

<sup>44</sup>*Equos circa sacrificia certaminibus quinquennies usque ad annum vigesimum plerumque idoneos adseverant, usibus autem domesticis a bimo usque in annum tricesimum necessarios esse apud diligentissimum dominum certissimum est* (ed. Fischer, 3, 2–5; cf. *Columella, Rust.*, VI, 27, 1 [ed. Forster and Heffner (n. 1 above), II, 188–91]).

<sup>45</sup>See *CHG*, II, XIII and K. Hoppe, "Die commenta artis medicinae veterinariae des Pelagonius," *Veterinärhistorisches Jahrbuch*, 3 (1927) (or *Abhandlungen aus der Geschichte der Veterinärmedizin*, 14 [Leipzig, 1927]), 193.

is Vegetius' treatise (between 383 and 455 A.D.), wherein he quotes and uses Pelagonius.<sup>46</sup>

Nothing is known about Hippocrates the veterinary surgeon, who is definitely not the medical doctor of Cos; there is no evidence for identifying him with Apsyrtos' correspondent.<sup>47</sup>

#### THE FOUR RECENSIOINS OF THE COLLECTION AND THEIR EDITION

The chronology of the *Collection* also remains uncertain.<sup>48</sup> It has been maintained for a long time that the *Collection* was formed at the time of Constantine VII Porphyrogenitus, in the tenth century A.D. It is by no means impossible that the elaborately ornamented Berlin manuscript, the Berolinensis Graecus 134 (Phillippicus 1538) was intended for this sovereign.<sup>49</sup> The manuscript does not, however, contain the oldest stage of the *Collection*. Indeed, the *Collection* went through several successive redactions, characterized by the selection of authors used, the order in which these authors appear, their general organization, and their style. We know four of these recensions. They are referred to by the letters M, B, D (C and L) and RV.<sup>50</sup> The first three are characterized by a grouping according to the subject matter of the excerpts from various authors.

The M recension is known from a Paris manuscript of the eleventh century, the Parisinus Graecus 2322; it represents the oldest known stage of the *Collection*, nearest to the hypothetical archetype

<sup>46</sup> See ed. Lommatzsch, XXVIII, XXXI–XXXV, and 311.

<sup>47</sup> CHG, I, 74, 15 and II, 143, 16.

<sup>48</sup> On the problems of chronology raised by the *Collection* and its various recensions, see Doyen, "Les textes" (n. 8 above), 269–72.

<sup>49</sup> On the discussions concerning the date of this manuscript, see *ibid.*, 270–71. On its illustrations, see especially: A. and W. Böckler, *Schöne Handschriften aus dem Besitz der Preussischen Staatsbibliothek* (Berlin, 1931), 7–8; R. Froehner, "Veterinärhistorische Abhandlungen über die griechischen Pferdeärzte des 4. Jahrhundert nebst Reproduktionen aus den *Hippiatrica* des Codex Graecus Berolinensis Phillipicus n° 1538 in farbigem Facsimiledruck, beigefügt der Festschrift von Hauptner, Rudolf," 80 Jahre H. Hauptner, 1857–1937 (1937), 24–44; J. Kirchner, *Beschreibende Verzeichnisse der Miniaturen-Handschriften der Preussischen Staatsbibliothek zu Berlin*, I. *Die Phillipps-Handschriften* (Leipzig, 1926), 16–17; K. Weitzmann; *Die byzantinische Buchmalerei des 9. und 10. Jahrhunderts* (Berlin, 1975), 1–18 and 71; and *Studies in Classical and Byzantine Manuscript Illumination* (Chicago and London, 1971), 194–95.

<sup>50</sup> M, B, and V, as well as C and L, are the initials used by Oder and Hoppe. It was Björck's suggestion to use D for the recension represented by the two English manuscripts (C and L) (G. Björck, *Zum Corpus Hippiatricorum Graecorum. Beiträge zur antiken Tierheilkunde* [Inaugural Dissertation, Uppsala, 1932], 20), and R for the Parisinus Graecus 2244 (G. Björck, "Le Parisinus grec 2244 et l'art vétérinaire grec," REG, 48 [1935], 508).

of the *Collection* called A by Björck.<sup>51</sup> Like this, it still uses the seven authors mentioned above in the alphabetical order of their names.<sup>52</sup> From the discovery of this logical principle, still followed by the writer of M, there follows a major consequence for the study of the *Collection*: there is no reason why the attributions of M to such and such an author should be questioned; the M recension then forms a reliable basis for the identification of hippiatric texts that appear in the other three recensions, wherein authors' names do not occur with so much regularity; the general organization of M does not seem to correspond to any definite principle of classification.

The B recension, of which the oldest witness is the illustrated Berlin manuscript, appears in nine other manuscripts:

Berolinensis Graecus 135 (Phillippicus 1539), sixteenth century;<sup>53</sup>  
 Parisinus Graecus 2245, fifteenth century;  
 Neapolitanus Borbonicus III d 26, fifteenth century;  
 Oxoniensis Baroccianus 164, fifteenth century;  
 Florentinus Laurentianus Graecus 75/6, fifteenth century;  
 Londinensis Add. 5108, sixteenth century;  
 Vaticanus Barberinianus Graecus 212, fifteenth century(?);  
 Vaticanus Urbinas Graecus 80, fourteenth-fifteenth century;  
 Romanus Bibliothecae Corsinianae 14.

Beside the seven authors whose excerpts do not appear any longer in the alphabetical order of their names, two new sources were used: a collection entitled Προγνώσεις καὶ λάσεις ("Prognoses and Treatments"), and Tiberius, an author about whom hardly anything is known, although it seems almost certain that he was inspired by Apsyrtos and Anatolios, and therefore would have to be dated after them. The information concerning the authors of excerpts in B never contradicts that in M. Unlike M, however, B contains many anonymous texts: if they appear in M as well, it is possible to identify their authors. The order of the subjects is more systematic in B than in M, and a stylistic

<sup>51</sup> Björck, *Zum Corpus* (n. 50 above), 20.

<sup>52</sup> See above p. 111 and n. 9.

<sup>53</sup> For most of the manuscripts of the B recension, the datings are those given in the catalogues. This information is not to be found by S. de Ricci, "Liste sommaire des manuscrits grecs de la Bibliothèque Barberina," *Revue des Bibliothèques*, 17 (1907), 97 (but see Björck, "Apsyrtos" [n. 18 above], 42), nor by G. Pierleoni, "Index codicum Graecorum qui Romae in Bibliotheca Corsiniana nunc Lynceorum adseruntur," *Studi italiani di filologia classica*, 9 (1901), 475–76.

modification can be noticed, namely abridgment.<sup>54</sup>

The D recension, represented by two manuscripts kept in England, the Cantabrigiensis Collegii Emmanuelis III.3.19 (C), from the twelfth century, and the Londinensis Bibliothecae Sloaniana 745 (L), from the thirteenth century, is quite similar to B with regard to the sources used, the form, and the organization. In addition, the recension reflects other texts: especially excerpts from Julius Africanus;<sup>55</sup> texts about human medicine;<sup>56</sup> extracts from hippology, among which is the only passage known by Simon of Athens;<sup>57</sup> and a text of Timothaeus of Gaza on horse breeds.

There are many differences between the two manuscripts (C and L) in the internal organization of the chapters and the contents. Some texts of C are absent from L, but the reverse is more frequent. Among the excerpts contained in L only are: the letter on the vulture (*CHG*, II, 253, 13–255, 6)<sup>58</sup> and several passages of Tiberius. The attribu-

<sup>54</sup> See, for instance, the beginning of the first chapter on fever (*CHG*, I, 1) and Theomnestos' text on tetanus (*CHG*, I, 183, 14–186, 6). Cf. also *CHG*, I, 152, 19–24 (B, XXX, 8) and *CHG*, II, 95, 3–19 (M, 995) with the Latin source (*Pelagonius* 216 [ed. Fischer, 38, 12–23]).

<sup>55</sup> If Björck is to be believed, it seems likely that the writer referred to a compendium by Julius Africanus interpolated by extracts from Aelian (Björck, "Apsyrtus" [n. 18 above], 34; see 17–18 as well). This assumption is based on the analysis of a text in D attributed to Julius Africanus; the text is in fact that of Aelian (*CHG*, II, 161, 21–24 = Ael., *N.A.* 11–18 [Loeb, II (London, 1959), 384, 4–8]). This passage was also transmitted by Aristophanes of Byzantium II, 620 (S. Lambros ed., *Excerptorum Constantini De natura animalium libri duo Aristophanis historiae animalium epitome, subjunctis Aeliani Timothei aliorumque eclogis* [*Supplementum Aristotelicum*, I; Berlin, 1885], 152, 3–6). J. R. Vieillefond has republished and translated the thirty-nine paragraphs attributed to Julius Africanus by the Cantabrigiensis Collegii Emmanuelis, III.3.19 (*Les Cestes. Etude sur l'ensemble des fragments avec édition, traduction et commentaires*, Publications de l'Institut Français de Florence. 1<sup>re</sup> série. Collection d'études d'histoire, de critique et de philologie, 20 [Florence and Paris, 1970], 215–55; see also 128–33, 138–39, 148–49).

<sup>56</sup> G. Björck has made up the list of these passages and put them side by side with passages from Oribasios, Aetios and Paulos Aegineta. He concludes that, following the example of other compilers in late antiquity, the writer of D seems to have used one or more collections and carefully remained silent about his direct sources, while at the same time mentioning the names of the authors in seconhand quotations. According to him this direct source is earlier than Oribasios since it contains excerpts from him (Björck, *Zum Corpus* [n. 50 above], 31–44).

<sup>57</sup> For the bibliography relating to these texts, see Doyen, "Les textes" (n. 8 above), 260–61, n. 19–25.

<sup>58</sup> Several Greek and Latin versions of this text are known. It shows interesting similarities with the sections on the eagle and the vulture in Book III of the *Cyranides* (D. Kaimakis, ed., *Die Kyraniden*, Beiträge zur Klassischen Philologie, 76 [Meisenheim am Glan, 1976] 188–91 and 199–201). On the questions raised by the identification of the author (Bothros, Aretas, Alexander, or Teuthris), the sources (the same as the *Cyranides*) and the way the contents have to be interpreted, see F. Cumont, "Le

tions of C to such or such an author are generally confirmed by M or/and B or—for Tiberius' texts—by R, when the texts also appear in one of these recensions. But C sometimes gathers extracts from various authors, and the whole constituted in this way may bear the name of one of these authors. Many attributions of L are false, as comparison with M and B, or even C, when it is possible, demonstrates. C and L contain many anonymous texts, which one can sometimes identify by referring to M, B or R. But no means of verification is possible for the passages contained in L only.

The RV recension is known through two partly illustrated<sup>59</sup> manuscripts from the fourteenth century: the Parisinus Graecus 2244 (R) and the Leidensis Vossianus Graecus Q. 50 (V). It consists of several texts which do not follow the same principles as the other recensions.

The first part of R and V contains three books. The first two books are a reconstruction of Hierocles' two books. This reconstruction was in all likelihood carried out from recension B. The third book is a brief but thorough little treatise on hippiatrics attributed to Galen and Hippocrates, to which I shall return later (pp. 117–18 below). This "illuminated branch" of the hippiatric texts holds a special position in the manuscript tradition, because the texts of which it consists have been translated, together or separately, into Latin, Italian, and Sicilian, and sometimes illustrated.<sup>60</sup>

The second part of the RV recension presents without any illustrations several series of excerpts classified at times according to authors (Apsyrtos,

sage Bothros ou le phylarque Aréatas?," *RPh*, n.s., 50 (1926), 13–33; L. MacKinney, "An Unpublished Treatise on Medicine and Magic from the Age of Charlemagne," *Speculum*, 18:4 (1943), 494–96); A. A. Barb, "Birds and Medical Magic," *JWarb*, 13 (1950), 318–22.

<sup>59</sup> On the illustrations of the Parisinus Graecus 2244, see A. Grabar, "L'art profane à Byzance," *Actes du XIV<sup>e</sup> congrès international des études byzantines*, Bucarest, 6–12 septembre 1971, I (Editura Academiei Republicii Socialiste România, 1974), 328–29; Z. Kádár, "Le problème du style dans les illustrations du manuscrit hippiaque de la Bibliothèque Nationale de Paris (Gr. 2244)," *ibid.*, II (1975), 459–61; K. Weitzmann, *Ancient Book Illumination* (Cambridge, 1959), 22–23 and *Studies* (n. 49 above), 42 and 194–95; K. Wessel, s.v. Buchillustration, *Reallexikon für byzantinische Kunst*, I (Stuttgart, 1966), 757–784 and s.v. Frontalität, *ibid.*, II (Stuttgart, 1971), 586–93. At the International Symposium on the History of Veterinary Medicine, held at Bârau bei Langnau in 1980, Dr. K. D. Fischer read a paper entitled "Griechische Pferdeheilkunde in spätmittelalterlichen Bilderhandschriften," which dealt with various Greek and Italian illustrated manuscripts, including the Vossianus Graecus Q. 50 and the Parisinus Graecus 2244. A summary of this paper was published in Society for Ancient Medicine Newsletter, No. 7 (October 1980), 5.

<sup>60</sup> For a list of the manuscripts containing these translations, see Doyen, "Les textes" (n. 8 above), 267, n. 51, and 273, n. 84.

Tiberius, Hieron), at other times according to subject matter. It is very hard to determine any principle of classification. In many respects, the second part is similar to the M recension.

The various interrelations of the recensions of the Greek hippiatric *Collection* are still far from being clear, but the fact remains that the *Collection* provides the historian of veterinary medicine with a considerable number of texts. Most of these texts were published by Oder and Hoppe in their Teubner edition of 1924 and 1927.<sup>61</sup> This edition does not enable the reader to form a clear opinion about the organization and the contents of the D and RV recensions. Therefore I have made a thorough inventory of the contents of these two recensions.<sup>62</sup> This endeavor does not suppress the drawbacks of an edition, which in other respects is of great value. At the same time it enables us for the time being to do without a complete edition of the four recensions of the *Collection*, which will definitely take several years to achieve.

Finally, some passages have not been edited in Oder and Hoppe's edition. They are the following texts:

1. Part of the *Hippiatrica* of the Parisinus Graecus 2244 (first part: fol. 1–195) and the Vossianus Graecus Q. 50:

several chapters from the versions of the brief treatise on hippiatrics or *Epitome*<sup>63</sup> contained in these manuscripts;

the text of a certain Lampudis on continuous fever;

excerpts from Apsyrtos;

various recipes, among which are included ophthalmic and cough remedies;

a statement on *malis* by Hieron.

2. Two versions of the *Epitome*: one preserved in the Vaticanus Palatinus Graecus 365 (fifteenth century), the other in the Parisini Graeci 1995, 2091 and 2244 (second part: fol. 77–87) (fourteenth century).

3. Most of the texts on horses contained in the

<sup>61</sup> On previous edition, the turns taken by the project of editing the *Collection* in the nineteenth century, see *ibid.*, 259–62.

<sup>62</sup> This work is included in my Ph.D. thesis (n. 8 above), II, 8–79; it is accompanied by a detailed description of the recensions of the *Collection* (I, 8–41).

<sup>63</sup> This is the term used by Björck ("Le Parisinus" [n. 50 above], 511). Indeed, the title of a manuscript, Vaticanus Palatinus Graecus 365, containing the term, is: Ιατρικὸν ἐν ἑπιτόμῳ ἀριστον περὶ ὕππων ἔχον κεφάλαια διάφορα (fol. 204<sup>r</sup>).

Vaticanus Ottobonianus Graecus 338 (sixteenth century) and the Vaticani Graeci 114 (first and second part: fol. 118<sup>r</sup>–141<sup>v</sup> and fol. 142<sup>r</sup>–145<sup>v</sup>) (fifteenth century) and 1066 (fourteenth century).<sup>64</sup>

a text concerning hippology, on the exterior of the horse, which opens the sections dealing with this animal in the Vaticanus Ottobonianus Graecus 338 and the Vaticani Graeci 114 (first part) and 1066;

two series of excerpts from the *Epitome*, representing different versions of the three others mentioned above; they both appear in the Vaticanus Graecus 114 (first and second part). The beginning of the first part is also found in the Vaticanus Ottobonianus Graecus 338 and the Vaticanus Graecus 1066.

4. A treatise about how to determine the age of horses known through the Ambrosianus H 2 inf., fol. 225<sup>r</sup>–v (sixteenth century). This last text has recently been edited with a commentary by K. D. Fischer and J. A. M. Sonderkamp.<sup>65</sup>

#### THE EPITOME OF THE COLLECTION

I have undertaken to prepare an edition of the *Epitome*, which has received little attention and has been completely neglected by previous editors. This Byzantine text is interesting for several reasons. First, its contents reveal that, to a very large extent, it is a summary of the *Collection* and that the manner of its compilation is contrary to that of the said *Collection*. Moreover, unlike the B recension, for instance, whose ten manuscripts offer the same text both in form and content, the *Epitome* is a living text which went through reshaping, undergoing sometimes very important alterations. I have therefore distinguished five stages of the text. Establishing any sort of affiliation between these different versions is, of course, out of the question, and it is impossible to clear up completely the problem of this living text's tradition, which eludes the classical laws of stemmatics: all the usual methods of combination fail one after the other. One particular circumstance, however, enabled me to carry further the study of the *Epitome*: several re-

<sup>64</sup> The chronological indications concern only the folios containing texts on hippiatrics or hippology. It is not always true for the entire manuscript.

<sup>65</sup> K. D. Fischer and J. A. M. Sonderkamp, "Ein byzantinischer Text zur Altersbestimmung von Pferden (Aus Ambrosianus. H 2 inf.)", SA, 64 (1980), 55–68.

censions of the *Collection* from which it comes are known, and it appears related to one of them, namely M. Therefore, I have tried to explore and use this relationship as much as possible. Before tackling the difficult problems of collating additions and omissions, I studied the arrangement, then I compared different passages from the text, not just within the versions of the *Epitome*, but with the various recensions of the *Collection* as well. Actually, only the study of the *Epitome*'s organization disclosed any new facts of value for the history of the text; subsequent research confirmed these facts.<sup>66</sup>

The history of the *Epitome*'s text shows that it does not stem from the M recension itself, but from a related recension. Does it then correspond to a later stage than M, or does it go back to an earlier stage, and why not to the original A *Collection*? If the second hypothesis were correct, the *Epitome* would be the oldest witness of the *Collection*. Unfortunately it is impossible to determine, and we know very little about the chronology of the *Epitome*. It is dependent on the chronology of the *Collection*, which constitutes the only *terminus post quem* of the treatise, whose oldest manuscripts date back from the fourteenth century, although an earlier *terminus ante quem* is provided by the Latin translation, which, in all likelihood, dates back to the second half of the thirteenth century.<sup>67</sup> Finally, it is important to point out that this technical text, without any literary claim, manifests some linguistic particularities which indicate real evolution in comparison with the entire *Collection*.<sup>68</sup>

#### PROSPECTS FOR THE STUDY OF THE GREEK HIPPIATRIC TEXTS

Such then are the Greek hippiatric texts which the historian of veterinary medicine has at his disposal. On one hand, there are the four known recensions of the *Corpus Hippiatricorum Graecorum*, to which must be added the sixteenth book of the *Geponica* (see note 7 above); on the other hand, there are the five versions of the *Epitome*, which I have edited. There cannot be any really thorough

<sup>66</sup>This study is found in my Ph.D. thesis (n. 8 above), I, 54–174 and II, 80–150.

<sup>67</sup>It is known through the Vaticanus Latinus 5366 (around 1300) and the Londinensis Add. 27 626 (fourteenth or fifteenth century?), which was edited by G. Sponer, *Die Pferdeheilkunde des Ipocras Indicus* (Vet. Diss., Hanover, 1966).

<sup>68</sup>I have made an inventory of all the grammatical matters in my Ph.D. thesis (n. 8 above), I, 175–212.

study of these texts until a complete edition, which considers all witnesses, is available. Nevertheless, it is possible to suggest the broad outlines of such a study by posing the main questions which will have to be answered.

The most urgent task—already undertaken at the beginning of this century by the veterinary surgeons L. Moulé, H. J. Séville, F. Simon<sup>69</sup> and W. Rieck,<sup>70</sup> and carried on in recent years in a masterly way by the distinguished historian of veterinary medicine, K. D. Fischer,<sup>71</sup> and with less satisfactory results by the veterinary medical students of Hanover and Munich<sup>72</sup>—falls within the prov-

<sup>69</sup>On the bibliography of L. Moulé, H.J. Séville and F. Simon, see A. M. Doyen, "L'accouplement et la reproduction des équidés dans les textes hippiaires grecs," *Annales de Médecine Vétérinaire*, 125 (1981), 552–53, n. 2–4.

<sup>70</sup>Dr. Wilhelm Rieck, professor emeritus from the Hanover School, is the author of many articles dealing with various periods in the history of veterinary medicine, including antiquity. He has studied primarily the history of ophthalmology ("Tieraugenheilkunde im Wandel der Zeiten," *Veterinärhistorisches Jahrbuch*, 8 [1936], 7–79) and the contents of the *Mulomedicina Chironis*. Among his recent articles, see "Die Blutentziehung in der anonymen Einleitung der *Mulomedicina Chironis*," *Et multum et multa* (Berlin, 1971), 307–12. He has also supervised several dissertations on such subjects. Thus, M. Skupas' dissertation: *Altgriechische Tierkrankheitsnamen und ihre Deutungen* (Vet. Diss., Hanover, 1962).

<sup>71</sup>K. D. Fischer and J. A. M. Sonderkamp's article, already mentioned (n. 65 above) is a model for this type of study. Edited with utmost philological rigor, the text from the Ambrosianus H 2 inf. is translated with great accuracy; there follows a detailed commentary. K. D. Fischer has also analyzed several terms from the vocabulary of Greek veterinary surgeons, in particular the names of diseases ("Two notes" [n. 41 above], 376–79, and "Wege zum Verständnis antiker Tierkrankheitsnamen," *Historia Medicinae Veterinariae*, 2 [1977], 106–11).

<sup>72</sup>In Munich the *Mulomedicina Chironis* has been completely translated and annotated by A. Baumgartner (Book I; 1976), R. Friki (Book II and Book IV, chapters 38–57; 1979), Th. Roeren (Book III; 1977), C. Guggenbichler (Book IV, chapters 1–37; 1978), H. Schwarzer (Book V; 1976), W. Wohlmuth (parts of Book VI and Book VII; 1978), W. Lamprecht (Book VIII, 1976); J. Krüger (Book IX; 1981) and C. Enderle (Book X; 1975). The *Corpus Hippiatricorum Graecorum* is now receiving the attention of several doctoral dissertations, supervised by Dr. J. Schäffer at the Institut für Paleoanatomie, Domestikationsforschung und Geschichte der Tiermedizin, headed by Prof. J. Boessneck. These include J. Schäffer, *Die Rezeptesammlung im Corpus Hippiatricorum Graecorum Band I (Kapitel 129, 130; Appendices 1–9)* (Munich, 1981); G. Reiter, *Die Kapitel über Erkrankungen an Kopf und Hals im Corpus Hippiatricorum Graecorum* (Munich, 1981); L. Zellwecker, *Die Kapitel über Erkrankungen an den Extremitäten im Corpus Hippiatricorum Graecorum* (Munich, 1981). These theses consist of a German translation (occasionally in need of correction) and a commentary which takes into account not only the pathological point of view, but the therapeutical questions as well. On the whole they are well researched. It is important that these hippiatric texts are also being examined by contemporary practitioners. It is, however, quite understandable that they do not attach much importance to philological study, which however constitutes the essential prerequisite to any subsequent analysis of the contents.

ince of the history of pathology.<sup>73</sup> The *Collection* deals with more than a hundred pathological cases. The descriptions of the "horse doctors" have to be examined closely and compared with not only the data of modern veterinary medicine, but also old texts of human medicine. Some diseases, of course, are only found in horses, such as μᾶλις, or κροθίασις (that is, founder or laminitis), but other diseases very frequently are discussed also in treatises on human medicine. Although it is occasionally possible to identify a disease described by the hippiatric authors simply by noting the described symptoms, it is most of the time necessary to consult the evidence provided by human medicine, so as to assess the data with regard to symptomatology, etiology, and pathology in general, and to interpret thus the veterinary writings. In several cases, such as in the case of epilepsy, it even appears that it is the influence of human medicine that justifies the presence of sometimes very long statements in the veterinary treatises. Otherwise one must suppose, to take the example of epilepsy again, that horses of long ago were more liable to that disease than their contemporary descendants, among which the disease is extremely rare.<sup>74</sup>

The influence of human medicine is therefore obvious, but it is very difficult to demonstrate which schools have exerted the most decisive influence. In the introduction to his medical work *De medicina*, Celsus puts the Methodists and the veterinary surgeons side by side;<sup>75</sup> indeed, the studies of some Latin texts, especially the *Mulomedicina Chironis*,<sup>76</sup> and the analyses made by Björck of a few passages of the Greek *Collection*<sup>77</sup> have shown the obvious contribution of the Methodists. The greater part of Greek hippiatrics, however, still has to be studied, and the task is all the more difficult since etiological information—as a rule the most interesting

<sup>73</sup>I have studied the contents of the *Epitome* from this point of view in my Ph.D. thesis (n. 8 above), V.

<sup>74</sup>At the International Symposium on the History of Veterinary Medicine held at Vienna in 1982, I read a paper entitled "Epilepsy in Greek Hippiatric Texts." A summary of it was published in *Historia Medicinæ Veterinariae*, 7 (1982), 41. No one of the veterinary surgeons I have questioned, be he a practitioner, an inspector, or a professor, has even come across one case in his career.

<sup>75</sup>Celsus, *Prohoem.* 65 (ed. Marx, 27, 30–28, 1).

<sup>76</sup>See Rieck, "Die Blutentziehung" (n. 70 above). W. Rieck read a paper entitled "Krankheitsbegriffe der Methodischen Schule in der *Mulomedicina Chironis*" at the International Symposium on the History of Veterinary Medicine held at Vienna in 1982; a summary was published in *Historia Medicinæ Veterinariae*, 7 (1982), 42.

<sup>77</sup>Björck, *Zum Corpus* (n. 50 above), 71 f.

information from this point of view—is generally very scarce and often only hinted at. Such a study, of course, will have to distinguish between the different authors' contributions to the *Collection*.

The influence of human medicine is visible not only in the pathological concepts and descriptions of diseases, but in therapeutical methods as well, and especially in the *materia medica*. Medicinal plants are essentially those used in human medicine, and some passages of the *Collection* were in fact written by medical doctors.<sup>78</sup> Thus, the issue of the specific character of the veterinary recipes is raised. A major problem is to prove that "horse doctors" did not content themselves with prescribing "kill-or-cure doses" of drugs borrowed from human medicine, but that they also had special medicines. Involved here are questions of quantification and the cost of the recipes. First it is essential to make a complete inventory of all the recipes, and there is a considerable number of them, even if we limit ourselves to Greek texts. Such a collation, it seems to me, makes the use of a computer almost unavoidable; and one must hope that the corpus of veterinary recipes will one day receive the same treatment as the recipes from human medicine studied in the THEOREMA project, now being carried out at the LASLA (Laboratoire d'Analyse Statistique des Langues Anciennes) at Liege University.<sup>79</sup> In this way it will be possible to survey all the veterinary recipes and to make the desired comparisons.

Finally, hippiatric texts raise a number of more general questions as regards the position of hippiatrics in ancient and medieval science, the status of "horse doctors" in society, their function, their education, their use of existing treatises, and the importance they gave to tradition. These last two aspects have to do with a recurrent problem in the history of the sciences, namely the relationship between theory and practice: what was the purpose of these texts, witnesses of the trend—so important and so little discussed in Byzantine scholarship—which resulted in the great collections of excerpts (on the military arts, alchemy, virtues and vices, etc.) and the summaries and abstracts of ancient science? At a time when knowledge was handed down orally, it is hard to believe that a book

<sup>78</sup>See K. Hoppe, "Über die Herkunft einiger Stellen im CHG II," *Veterinärhistorische Mitteilungen*, 7 (1927), 42–44 and 8 (1928), 1–2; Björck, *Zum Corpus* (n. 50 above), 32–44.

<sup>79</sup>See C. Opsomer-Halleux, "Prolégomènes à une étude des recettes médicales latines," *Centre Jean Pallerne, Mémoires*, III, *Médecins et Médecine dans l'Antiquité* (Saint-Etienne, 1982), 85–104.

as bulky and wordy as the *Collection*, with its costly manuscripts, would have been found in the house of a "horse doctor" or a farrier. With regard to the subjects considered in the *Collection*, there are several statements, sometimes quite different, and a selection of various cures; with good reason any practitioner, who was little concerned with theories, would have been confused and disheartened.

The *Epitome* no doubt exerted a considerable influence, as is suggested by the various translations.<sup>80</sup> Moreover, several elements enable us to suppose that it was of much use to Byzantine veterinary surgeons. More concise than the *Collection*, the *Epitome* contains a short statement for each disease and a limited number of remedies. To these

<sup>80</sup> See above, p. 116 and n. 60; p. 118 and n. 67.

summaries, there is also a certain amount of practical information added (for instance, on the way of finding the vein to bleed), which must be due to someone in the profession. Finally there appear to have been several drafts, which would suggest that it was quite successful. Thus, I am inclined to think that the text of the *Epitome* did not go unheeded, but must have been used as a *vademecum* by the veterinary surgeons of the Byzantine period.<sup>81</sup>

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